

**Amendment and Response**

Applicant: Jack L. Meador

Serial No.: 10/612,598

Filed: July 2, 2003

Docket No.: H302.302.101

Title: SYSTEM AND METHOD FOR PREVENTING COMPREHENSION OF A PRINTED DOCUMENT

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**REMARKS**

The following remarks are made in response to the Office Action mailed May 8, 2007, in which claims 1-27 were rejected. With this Response, claims 1, 3-4, 6, 9-10, 13-15, 19-20, and 26-27 have been amended, claims 2, 5, 7-8, 11-12, 16-18, and 21-25 have been canceled, and claims 28-31 have been added. Claims 1, 3-4, 6, 9-10, 13-15, 19-20, and 26-31 remain pending in the application and are presented for reconsideration and allowance.

**Claim Rejections under 35 U.S.C. § 102 and § 103**

In the Office Action, claims 1, 3-4, 6-16, 18-23, 25-27 were rejected under 35 U.S.C. § 102(b) as being anticipated by the Hasegawa et al. U.S. Patent No. 5,666,191 (the Hasegawa Patent). In the Office Action, claims 2, 5, 17, and 24 were rejected under 35 U.S.C. § 103 as being unpatentable over the Hasegawa Patent in view of the Whaley U.S. Publication No. 2003/0004607 (the Whaley Publication).

Applicant has canceled claims 2, 5, 7-8, 11-12, 16-18, and 21-25.

Applicant has substantially incorporated the limitations of dependent claim 2 into independent claim 1, and accordingly, Applicant will treat the rejection of claims 1 and 2 together.

Applicant's independent claim 1 specifies a method of preventing comprehension of a printed document. The method comprises feeding a printed document into a device having a printing mechanism and printing, via the printing mechanism, at least one obfuscation pattern over the printed document to prevent comprehension of the printed document. The printed document is shredded after printing over the printed document and reconstruction of the shredded printed document is prevented via the at least one obfuscation pattern.

In contrast, the Hasegawa Patent strongly teaches away from Applicant's independent claim 1 by teaching those skilled in the art to obliterate a printed document via printing and by **not** shredding the document. In particular, the Hasegawa Patent teaches the avoidance of shredding documents for use as an obliterating tool because shredding is said to: (1) be too noisy; (2) produce a bulky mass that is difficult to handle; and (3) produce fine shreds that are not suitable for recycling.

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In addition, the Hasegawa Patent presumes that a shredded document cannot be reconstructed from the shredded strips. However, given the well-known use of garbage sifting for corporate espionage, identity theft, and other criminal activity, as well as the known application of technology (e.g., natural word/grammar analysis) by criminals to reconstruct original documents from shredded pieces, this presumption by the Hasegawa Patent is outdated and/or simply inaccurate. Accordingly, the Hasegawa Patent further teaches away from Applicant's independent claim 1, because the Hasegawa Patent denies the possibility of reconstructing a shredded document.

Accordingly, the Hasegawa Patent teaches away from Applicant's independent claim 1, including the claim limitations of **shredding the printed document** after printing over the printed document and **preventing reconstruction of the shredded printed document via the at least one obfuscation pattern**.

The Whaley Publication cannot cure the deficiencies of the Hasegawa Patent because the Hasegawa Patent teaches so strongly away from shredding documents and for the additional reasons explained below.

First, combining the use of printing via a printing mechanism and shredding in the same method (or device) would be counter-intuitive to those skilled in the art because the combination would call for destruction of the document via shredding almost immediately after printing the very same document. Accordingly, the mention of a shredder in the Whaley Publication as an alternative to the stapling device 212 would be fairly viewed as a listing not likely to be taken seriously as a substitute for the stapler device 212. This point is bolstered by the Whaley Publication itself, as the "shredder" and/or "shredding" (or many other items in the list in Paragraph 30 of the Whaley Publication) is never mentioned again in the Whaley Publication as the Whaley Publication teaches a system for replacing staples in a stapling device of a printer, copier, and the like. The shredder has little or nothing to do with the goals of the Whaley Publication in terms of replacing parts, as a shredder does not use or include a replaceable component anything like the high-volume commodity item of staples. Accordingly, it is hard to imagine that one skilled in the art would look to the Whaley Publication (focused on replacing staples) to solve issues related to preventing reconstruction of a shredded document. Moreover, it is even harder to imagine that one skilled in the art

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would pick out the single word reference of a shredder out of the Whaley Publication, which addresses a completely different problem than the Hasegawa Patent, and make the connection to add a shredder to the printer of the Hasegawa Patent for preventing comprehension of documents, particularly when the Hasegawa Patent strongly teaches away from shredding documents to obliterate the document. For at least these reasons, one would not and cannot combine the Hasegawa Patent with the Whaley Publication to arrive at Applicant's independent claim 1.

For at least these reasons, the Hasegawa Patent fails to anticipate Applicant's independent claim 1, and the combination of the Hasegawa Patent and the Whaley Publication fail to teach, suggest, or reasonably make obvious Applicant's independent claim 1. Therefore, Applicant respectfully submits that independent claim 1 is patentable and allowable over the Hasegawa Patent. Dependent claims 3-4, 6, 9-10, and 13-14 are believed to be allowable as they further define patentably distinct independent claim 1.

In addition, dependent claim 4 is further patentably distinguishable from the Hasegawa Patent. In particular, Applicant's dependent claim 4 specifies that the at least one target portion at which the at least one obfuscation pattern is printed comprises only at least one whitespace portion of the printed document. Printing in the whitespace portion of the printed document hinders reconstruction of a shredded document because the re-constructer cannot use blank shreds to locate the margins, spaces between lines, or spaces between paragraphs as clues to reassemble the printed document.

In contrast, the Hasegawa Patent apparently discloses a much cruder tool that does not distinguish printing onto an existing text of a printed document from printing onto a whitespace portion of the same existing document. For example, Figure 4 provides the only illustration in the Hasegawa Patent of printing of an image concealing pattern. As illustrated in Figure 4 of the Hasegawa Patent, no overprinting occurs in the whitespace portions of the document, such as the margins, or the space between the lines of text. Instead, any overprinting appears to occur only over the previous text of the document so that the Hasegawa Patent teaches away from Applicant's dependent claim 4. Moreover, the system of the Hasegawa Patent does not contemplate the advantage of adding misinformation to the

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whitespace portions of a printed document, as provided via the method of Applicant's dependent claim 4.

Other passages of the Hasegawa Patent indicate that the image concealing pattern is printed directly over existing information, such as described at Column 7, line 53 ("written over the information already printed on the paper sheet") and at Column 16, line ("by being printed thereover"). Accordingly, these cited passages of the Hasegawa Patent are consistent with the illustration of Figure 4, in which no whitespace portions (e.g., blank areas between the printed lines, blank areas between paragraphs, and blank margins) are printed over.

For at least these reasons, the Hasegawa Patent fails to teach, suggest, or reasonably make obvious Applicant's dependent claim 4.

For substantially the same reasons presented for the patentability of Applicant's dependent claim 4, the Hasegawa Patent (and the Whaley Publication) fails to teach, suggest, or reasonably make obvious Applicant's dependent claims 6 and 9, which also define printing the at least one obfuscation pattern in whitespace portions of the printed document. For example, Applicant's dependent claim 9 recites that the at least one target portion of the printed document comprises a white space portion of the printed document and printing the at least one obfuscation pattern at the at least one target portion comprises at least one of: (1) selecting a negative image of at least one identified character of the printed document and printing the negative image about the at least one identified character of the printed document to produce a substantially uniform thickness of ink or toner for the combination of the at least one identified character and the negative image of the at least one identified character on the printed document, wherein the whitespace portion comprises an area surrounding the at least one identified character and defined by the printed negative image of the identified character; (2) randomly selecting characters and printing strings of the selected characters at randomly selected angles on the printed document; and (3) randomly selecting characters and printing the selected characters individually at angles rotated relative to existing characters of the printed document.

Because the Hasegawa Patent is not concerned with preventing reconstruction of a shredded overprinted document (as in Applicant's base claim 1), the Hasegawa Patent does

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even remotely approach the level of sophistication present in Applicant's dependent claim 9. In one aspect of claim 9, the method includes selecting a negative image of at least one identified character of the printed document and printing the negative image about the at least one identified character of the printed document to produce a substantially uniform thickness of ink or toner for the combination of the at least one identified character and the negative image of the at least one identified character on the printed document, wherein the whitespace portion comprises an area surrounding the at least one identified character and defined by the printed negative image of the identified character. This claimed feature prevents the attempted use of topographical analysis of the ink on individual shreds of paper to reconstruct the order and layout of the original printed document because the re-constructor cannot determine which ink came from the original document based on the topography of the ink. Mere overprinting, in which ink is printed over the ink of the original document can potentially reveal the overprinting pattern, which can then lead to deciphering the text patterns of the original document. The Hasegawa Patent fails to teach, suggest, or reasonably make obvious such claimed features as the Hasegawa Patent merely describes the general application of image concealing patterns without contemplating the exacting precision in the negative image pattern called for in Applicant's dependent claim 9.

In another aspect of dependent claim 9, the method includes selecting and printing (within the at least one whitespace portion) strings of characters at randomly selected angles (or random individual characters at angles) relative to the existing characters of the printed document. This claimed feature has particular application in preventing reconstruction of a shredded document, as the random characters printed at random angles will hinder the re-constructor's attempt to determine which line or portion of the printed document at which that particular character originated. Again, the Hasegawa Patent fails to teach, suggest, or reasonably make obvious such claimed features merely describes the general application of image concealing patterns without contemplating the exacting precision called for in Applicant's dependent claim 6.

Applicant's dependent claim 13 is also further patentably distinguishable from the Hasegawa Patent, as claim 13 specifies analyzing the electronic text file to determine a

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content of the printed document and that the at least one target portion of the printed document comprises at least one whitespace portion of the printed document. Printing the at least one obfuscation pattern comprises at least one of: (1) randomly selecting a plurality of content-free words and printing the selected words in a non-grammatical order as the at least one obfuscation pattern in the at least one whitespace portion of the printed document with the selected words printed in at least one of a repeating pattern and a non-repeating pattern; and (2) selecting a plurality of content-free words and printing the selected words in a grammatical order as the at least one obfuscation pattern in at least one whitespace portion of the printed document.

The Hasegawa Patent obtains an image of the paper sheet (allowing storage of the image data – see e.g., Columns 7-8) but does not determine a content of the printed document via analyzing an electronic text file of the printed document, as recited in Applicant's dependent claim 13. Without that knowledge of the content of the document, the system of the Hasegawa Patent would not be capable of accurately selecting content-free words for printing, and hence the system of the Hasegawa Patent would be at a disadvantage for preventing reconstruction of a shredded overprinted document. However, in the method of Applicant's dependent claim 13, determining the content of the printed document allows the selection of content-free words (i.e., meaningful words that are irrelevant or unrelated to the content of the printed document) for printing into the at least one whitespace portion of the printed document. This claimed feature makes reassembly of shreds of paper more difficult because the content-free words provide misinformation to hinder the re-constructor's work while at the same time, those content-free words occupy the whitespace portion to hide reassembly clues (among shreds of paper) about where the margins and space between lines (or paragraphs) occurred in the original printed document and therefore where the shred belonged in the original document.

For at least these reasons, the Hasegawa Patent fails to teach, suggest, or reasonably make obvious Applicant's dependent claim 13.

Applicant's independent claim 15 specifies a document obfuscator system. Applicant has substantially incorporated the limitations of dependent claim 17 into independent claim

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15, and accordingly, Applicant will treat the rejection of claims 15 and 17 together. The document obfuscator system of claim 15 comprises a printing mechanism, a memory, a scanner, and a shredder. The scanner is configured for obtaining an image file of the printed document and includes an optical character recognition module configured for converting the image file into an electronic text file. The memory stores an obfuscation module configured to cause the printing mechanism to print at least one over-printing pattern onto a printed document to obfuscate the printed document. The obfuscation module comprises a page analyzer and an overprint response selector. The page analyzer is configured for identifying a content of the electronic text file of the printed document while the overprint response selector is configured for selecting the at least one over-printing pattern, dependent on the content of the printed document, to obfuscate the content of the printed document. The shredder is configured to shred the obfuscated printed document.

For substantially the same reasons previously presented for the patentability of independent claim 1, Applicant's independent claim 15 is believed to be patentable and allowable over the Hasegawa Patent and the Whaley Publication. In particular, one skilled in the art would not combine the Hasegawa Patent and the Whaley Publication as they teach away from each other, and even when combined, do not produce Applicant's independent claim 15. The Hasegawa Patent and the Whaley Publication fail to teach, suggest, or reasonably make obvious the claim limitations of a document obfuscator system including a **printing mechanism**, a memory storing **an obfuscation module** configured to (cause the printing mechanism to print at least one over-printing pattern over a printed document) to **obfuscate the printed document, and a shredder configured to shred the obfuscated printed document**.

In addition, the Hasegawa Patent fails to disclose a page analyzer configured for identifying a content of the electronic text file of the printed document as recited in Applicant's independent claim 15, as the Hasegawa Patent teaches obtaining and storing images of the printed sheets. See Columns 7-8 of the Hasegawa Patent. Because the Hasegawa Patent does not determine the content of the printed sheets, the Hasegawa Patent fails to provide an overprint response selector configured for **selecting the at least one over-printing pattern, dependent on the content of the printed document, to obfuscate the**

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**content of the printed document**, as recited in Applicant's dependent claim 15. This claimed feature more effectively hinders reconstruction of a shredded document, because by knowing content of the document, one can select an over-printing pattern specifically adapted to obfuscate that content.

For at least these reasons, the Hasegawa Patent fails to anticipate Applicant's independent claim 15, and the combination of the Hasegawa Patent and the Whaley Publication fail to teach, suggest, or reasonably make obvious Applicant's independent claim 15. Therefore, Applicant respectfully submits that independent claim 15 is patentable and allowable over the Hasegawa Patent and the Whaley Publication. Dependent claims 19-20 are believed to be allowable as they further define patentably distinct independent claim 15.

In addition, for reasons substantially similar to those previously presented for the patentability of claims 4, 9, and 13, Applicant's dependent claim 20 is further patentably distinguishable from the Hasegawa Patent.

Applicant's independent claim 26 specifies a computer readable medium having computer-executable instructions for performing a method of obfuscating a printed document. The method comprises: (1) identifying at least one whitespace portion, at least one text portion, and at least one graphics portion of a printed document; and (2) manipulating at least one of a symbol pattern, a character pattern, a word pattern, a random pixel pattern, and an image pattern configured for over printing onto the at least one whitespace portion, the at least one text portion, and the at least one graphics portion of the printed document to obfuscate the printed document.

For substantially the same reasons previously presented for the patentability of independent claims 1 and 15, Applicant's independent claim 26 is believed to be patentable and allowable over the Hasegawa Patent and the Whaley Publication. In particular, one skilled in the art would not combine the Hasegawa Patent and the Whaley Publication as they teach away from each other, and even when combined, do not produce Applicant's independent claim 26.

In particular, as previously explained above, because the Hasegawa Patent obtains and stores images of the printed sheets apparently without determining which portions of the



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printed sheet contain whitespace, the Hasegawa Patent fails to identify **at least one whitespace portion**, at least one text portion, **and at least one graphics portion** of a printed document, as recited in Applicant's independent claim 26. Therefore, the Hasegawa Patent also fails to teach or suggest manipulating at least one of a symbol pattern, a character pattern, a word pattern, a random pixel pattern, and an image pattern configured for over printing onto **the at least one whitespace portion**, the at least one text portion, **and the at least one graphics portion** of the printed document to obfuscate the printed document, as recited in Applicant's independent claim 26.

For at least these reasons, the Hasegawa Patent fails to anticipate Applicant's independent claim 26, and the combination of the Hasegawa Patent and the Whaley Publication fail to teach, suggest, or reasonably make obvious Applicant's independent claim 26. Therefore, Applicant respectfully submits that independent claim 15 is patentable and allowable over the Hasegawa Patent and the Whaley Publication. Dependent claim 27 is believed to be allowable as it further defines patentably distinct independent claim 26.

Therefore, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 3-4, 6, 9-10, 13-15, 19-20, and 26-31 under 35 U.S.C. § 102 and §103, and request allowance of these claims.

**New Claims**

Applicant also presents new claims 28-31, which are respectfully submitted as being allowable for at least the same reasons previously presented for the patentability of claims 1, 3-4, 6, 9-10, 13-15, 19-20, and 26-31. Accordingly, Applicant respectfully requests favorable consideration and allowance of these new claims 28-31.

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**CONCLUSION**

In view of the above, Applicant respectfully submits that pending claims 1, 3-4, 6, 9-10, 13-15, 19-20, and 26-31 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1, 3-4, 6, 9-10, 13-15, 19-20, and 26-31 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 08-2025.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either Paul S. Grunzweig at Telephone No. (612) 767-2504, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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